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AUTHOR Weybright, Loren D.
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ABSTRACT

The study compared the level of development observed in the imaginative play of young children with the level of development revealed in conservation an classification tasks. The sample included 40 children, with one 5/6-year old group of 20 children (10 boys, 10 girls), and two six/seven-year old groups of 20 children (14 boys, 6 girls). The children were observed in block and water play, in the housekeeping area; and 26 of them were administered five tasks of logical thinking. The tasks included measures of physical knowledge: conservation of mass and classification of beads, and measures of social knowledge: conservation of social role, classification of boys and girls, and kinship. The results supported the question of a parallel correspondence between stages of development exhibited in paly and in logical thinking. Some age differences appeared in the observational measure of social interaction in children's play. All younger children adopted individualized rules and felt rules were fixed. Some, but not all older children maintained a cooperative system of interaction, developing rules by consensus. Implications for the early childhood caregiver were described, based on the informal, interactive social context which supported the development of rules. (Author)

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Young Children's Ideas About, and the Practice of Their Own Rules in Imaginative Play*

Loren D. Weybright**

The City College of New York

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Young Children's Ideas About, and Practice

of Their Own Rules in Imaginative Play

The present investigation compares the level of development observed in the play of young children in the informal classroom, with the level of development these children revealed in conservation and classification interviews. Even after years of investigation, the relationship between play and development (Piaget, 1951), and the relationship between social and cognitive development (Piaget, 1932; Bearison, 1975) remains unclear. The primary developmental questions are: Is play thinking, or merely an expression of thought? Does play anticipate, parallel, or follow the growth of cognitive structures?

Piaget's original investigations into the relationship between cognitive and social development focused on the rules in children's games (1932), and on the symbolic function of play and imitation in supporting development (1951). (See Singer, 1973, Singer & Singer, 1976, and Sutton-Smith, 1975 for critical reviews of research on play and development.) Several theorists (Piaget, 1932, Vygotsky, 1967) Suggest, but did not empirically examine the hypothesis that play leads, or is at least parallel to cognitive development.

Some investigators have found a parallel correspondence between the level of development observed in "spontaneous cognitive activities" (Wohlwill, Devoe & Fusaro, 1971), or in the rules observed in block play (Weybright, 1975), when compared with the level of development revealed in standard Piagetian conservation or classification measures. However, Peterson (1976) found that stories which children created under the freest of conditions resulted in the highest cognitive level of responses. Bearison (1975), in a review of the research which compared social and physical knowledge, found the results were equivocal, with positive correlations in some studies, and not in others.

While most of these investigations identified variables which influence development as observed in the standard interview setting or in children's games, they reveal little about the comparative level of development seen

in children's imaginative play in the classroom, as compared with their responses to standard Piagetian interviews.

These studies do support, however, the notion of an ecological analysis of spontaneous activity, such as found in the free play settings of this investigation. Specific questions of this interim report were posed in order to further define the parameters of a long-term, comparative investigation:

1. How is the stage of development in young children's ideas about rules and social cooperation revealed in their free play?

2. How is the stage of development in rule making and social interaction related to the level of development in conservation and classification problems?

Procedures

Sample and Setting

The sample of 40 children included one classroom of 20 children, 5-6 years of age, (10 boys and 10 girls), and 20 children from two 6-7 year old groups (14 boys and 6 girls). The sample was determined by those who chose to play in the blocks (75% of the observations), in water play, or in the housekeeping area.

Rules and Social Interaction Measure

The observation focused on the (a) rules or procedures the children used during their free play, and (b) on the level of social interaction (egocentric or cooperative) exhibited. The rules questions, adapted from Piaget (1932) in an earlier pilot study (Weybright, 1975a), were designed to reveal the source of the children's actions: Origin: How did they begin? Where did their ideas come from? How did they decide to use their constructions (i.e., what were their rules or modes of operation)? Change: Could they or anyone else change the informal rules? The stage classifications were established by a summary of the independent ratings from all the play observations for each subjects (at least two observations/per subject).

According to Piaget (1932), egocentric or preoperational children firmly believe that all rules come from authority figures, and are absolute. In practice, however, they often break the rules, or follow apparently inconsistent guidelines. Children at the cooperative or concrete operational level arrive at rules on the basis of group consensus. Procedures and roles may be changed, but only by swaying group opinion.

Logical Thinking Measures

Of the 40 sample children, 26 were individually administered a series of five conservation and classification tasks. The tasks included two measures with physical content: conservation of mass (clay) and class inclusion (wooden beads in two colors), and three measures with social content: Conservation of social role (Sigel, Saltz & Roskind, 1967), asking: "If a father (mother) became a doctor, would he (she) still be a father (mother)?"; class inclussion, refering to children and asking: "Are there more girls or more children in this group?"; and a kinship question (Piaget, 1928): "How many sisters does your sister have?"

Results

Rules and Social Interaction Observations

Independent ratings determined for each child which one stage of social interaction best characterized her/his behavior across the observations in several play areas, and are summarized in Table 1. Some age differences were

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Insert Table 1 about here

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apparent, with most of one (but not both) of the older 6-7 year old groups showing true cooperation in their play.

Sex differences appeared in the function, but not necessarily in the underlying cognitive structures of these children's rules. More boys, overall, choose blocks as a free play activity than girls. The girls made more hospitals and apartments, while the boys built more police and fire stations. But the boys and girls would often play alongside each other, all within a common theme.

Origins and Changes in Rules: Egocentric Stage

It was observed that most of these children held individual, not shared goals for determining the procedures in their play. Their individualized purposes appeared sometimes in parallel with their peers, sometimes in contradiction, but nearly always relating directly to the nature of the materials. What they did well together was to share the same fantasy, like chopping a house down. Otherwise, they built separately and deployed their men separately within a variety of "fire engine" situations (Rudin, 1977). While most of the origins of the egocentric children's ideas were inferred from their actions, some were able to talk about the source of their themes. The firehouse

themes for example, seemed to grow out of the children's real experience with fires, of visits to the firehouse, TV shows, books read in class, etc.

The observer (O) asked two 5 year old boys, T. & R. about their fire station:

O: R., did you build it? (He nods.) What gave you the idea for it?

T: We just made it up.

R: From Orlando's building (suggesting they added to an existing structure).

O: Did you ever go to a fire station, T.?

T: I went before, when I went with the whole class.

When the observer asked if there were any rules that must be followed in a playhouse, a 5 year old boy (J) and girl (P) responded:

J: Fact 1: No running. Fact 2: Don't run outside. Fact 3: Don't dirty around this. Fact 4: Don't bring blocks in.

O: Can you play anything you want in here?

P: Yeah.

J: No. you got to have the teacher's permission.

O: But if V. (the teacher) says you can play out here?

J: Then we can pretend we're anything we want.

Origin and Changes in Rules: Cooperative Stage.

The functional rules or procedures for most of the 6-7 year olds observed at the West Side School originated as individual suggestions, but were offered in the context of acceptance and group collaboration. Often, the children would construct something first, "messing" with it a bit, then determine its function.

In the next example, two 7 year old girls, S. and D., were making their own islands out of modeling clay when they decided to work together:

S: I'll put this down here and you make a bridge (between the two islands). (They spend some time adding houses.)

D: Hey, if we're making a house, pretend that the roof is made out of straw, like Hawaii. (D makes a cube and sticks a pointed roof on it.)

S: We could pretend that it is Hawaii. (Her house.)

D: Make it so you can come out the door.

S: Here, you turn it around and make a door in it like this. (Rather than build separate islands, the two girls agreed to join them, maintaining a cooperative function.)

In terms of changes they allowed in the rules, both girls in this representative discussion accepted suggestions about what their houses should look like, and how to change the landscape. Children, within the cooperative framework, accept each other's criticism of their constructions, and proceeded to change it. Although their actions are firmly rooted in the materials (clay, blocks, etc.), the importance of social interaction in developing their rule structures becomes apparent.

Stage in Logical Thinking Tasks and in Social Interaction

A series of five logical thinking tasks were administered to 26 of the 40 children in the sample. The substage classification scores from all the tasks were combined to produce an arithmetic mean for each child. The mean logical thinking score was then compared, in Table 2, with the stage of social interaction, which, in itself, was an "average" score of each child's total play observations.

Insert Table 2 about here

The comparisons for all groups suggest a clear correspondence between the stages of development observed in play and those stages exhibited in the logical thinking tasks. The Pearson product-moment correlation (r) for the individual pairs of scores was .87, when computed for the sample as a whole.

While a separate task analysis is beyond the scope of this study, several task differences should be noted. The two questions on social role and kinship did not discriminate between stages. Nearly all children conserved on these two tasks, regardless of their stage classifications on the other tasks or on the social interaction measure. Only the conservation of matter (clay) and the class inclusion questions (wooden beads and groups of children) corresponded with the level of social interaction.

Discussion and Summary

Rules in Children's Play

While some age differences were apparent, most children were either in the egocentric or transitional stage in their social interactions and rule structure. They were primarily concerned with individualized, and sometimes contradictory rules. These egocentric children appeared to cooperate at times, but only when they shared a common goal or fantasy in their play. They felt rules could not be changed, and sometimes became upset when others intruded on their space.

The several children (nine boys and girls in one group of 6-7 year olds) who achieved the stage of cooperation were able to maintain rules, roles, and play procedures by group consensus. The rules these older children created for their imaginative, non-competitive play appeared to be part of a unified,

internal system. Even though individuals might play alone, their activity remained within the context of a larger, commonly held theme.

Developmental Stage

The conclusion of this preliminary study is that there is a direct, parallel correspondence between the stages of development observed in imaginative play, and in conservation and classification tasks. For the social role and kinship tasks, however, there was little correspondence with their level of social interaction. Bearison (1976) also found equivocal results among investigations which compared social and physical knowledge.

Educational Implications

The role of the teacher in the careful observation and informed support of children's play is multidimensional (Weybright, 1975b, 1976). The initial function is for the teacher to conduct an internal analysis of children's thinking during imaginative play. While individual age and sex differences appeared in this study, there was uniformity and structure evident in the rule system (s), especially among the older children.

A logical extension of this analysis is for the teacher to provide the context that fosters social and cognitive development. Play provides a natural setting for the development of social rules. The voluntary constraint of the rules in play appears to support social cooperation.

Table 1

Stage of Social Interaction Among Young Children at Play[a]

Children					Stage of Social Interaction		
Class	Sex	n	Age Range	Avg. Age	Egocentrism	Transitional	Cooperation
East Side							
5's & 6's	Boys	10	5.1-6.9	5.10	6	4	
	Girls	10	4.11-7.0	5.9	7	3	
6's & 7's	Boys	8	6.1-8.2	7.4	5	3	
West Side							
6's & 7's	Boys	6	6.1-7.5	6.7		1	5
	Girls	6	6.0-8.1	7.3		2	4

[a]The results from the several play areas (blocks, water, and housekeeping) were combined for this table.

Table 2

A Comparison of the Average Stage of Development Exhibited in Social Interaction Observations and on Logical Thinking Tasks[a]

East Side School: 5 and 6 Year Olds

Boys			Girls		
Age	Social Interact.	Log. Th. Tasks	Age	Social Interact.	Log. Th. Tasks
6.9	2	2.3	6.5	1.5	1.8
5.5	2	2.0	7.0	1.5	1.6
6.9	2	1.8	5.8	1.5	1.6
5.9	2	1.5	5.4	1.0	1.8
6.1	1	1.8	4.11	1.0	1.6
5.1	1	1.6	6.3	1.0	1.5
6.9	1	1.6	4.11	1.0	1.4
6.4	1	1.5	6.5	1.0	1.2
5.2	1	1.4	5.7	1.0	1.2
5.1	1	1.2	6.1	1.0	1.2

West Side School: 6 & 7 Year Olds

6.1	3	2.8	7.1	3.0	2.6
6.6	3	2.8	7.6	2.0	1.8
6.8	2	1.8	8.1	2.0	1.6

[a]Preoperational (Egocentric) Stage = 1, Transitional Stage = 2, and the Concrete Operational (Cooperative) Stage = 3.

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